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EXAMINER

SEALEY, LANCE W

ART UNIT

PAPER NUMBER

2671

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/160,728

Applicant(s)

LEWAK, JERZY

Examiner

Lance W. Sealey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 61-80 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 61-80 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Notice of Change in Art Unit*

1. The Group and/or Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2671.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of 35 U.S.C. 102(e) which forms the basis for all novelty-related rejections set forth in this Office action:

A person shall be entitled to a patent unless—

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by applicant for patent.

3. Claims 61-68 and 80 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakayama et al. ("Nakayama," U.S. Pat. No. 5,732,001).

4. Nakayama, in disclosing a calculator with stepwise display of linear equations, also discloses, with respect to claim 61, a method of presenting, on a computer controlled display device, transformation rules of abstract representations using animations to simulate continuous transformations (Abstract, first sentence).

5. Concerning claim 62, Nakayama discloses the method of claim 61 is used for teaching transformation rules for abstract symbolic statements (Abstract, third sentence).

6. Regarding claims 63-66 and 80, Nakayama discloses a teaching method (Abstract, third sentence) of illustrating transformations of abstract symbol statements (equations), comprising

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(a) presenting a first form of an abstract symbol statement on a computer-controlled display device (**g1**, FIG.8); (b) presenting a second form of the abstract symbol statement which is a transformation of the first form (**g7**, FIG.8); (c) animating portions of the first form of the abstract symbol statement (the "X2" in the upper-right-hand box of **g2**, FIG.8, is one example), while other portions of the first forms remain static, to indicate conceptual changes involved in the transformation from the first form (**g1**) to the second form (**g7**) of the abstract symbol statement; (d) calculating intermediate abstract representations between the first and second forms of the abstract symbol statement (**g2** through **g6**, FIG.8); and (e) animating changes between first and second forms of the abstract symbol statement by displaying said intermediate representations sequentially on said display device to cause the transformation to appear continuous (**g2** through **g6**, FIG.8).

7. Finally, with respect to claims 67 and 68, Nakayama discloses accepting user input and changing the computer-controlled display in response to the user input (Abstract, first two sentences) where said presentation is for use in the teaching of said presentation rules, and said method comprises the following steps: (a) a step for displaying an abstract symbol statement in a first form; (b) a step for displaying an abstract symbol statement in a second, transformed form; and (c) a step for animating a transition between the first form and the second, transformed form of the abstract statement (Abstract, first sentence).

8. Therefore, in view of the foregoing, claims 61-68 and 80 are rejected under 35 U.S.C. 102 as being anticipated by Nakayama.

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***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

10. Claims 69-73 and 76-79 are rejected under 35 U.S.C. 103(a) as being unpatentable by Nakayama in view of Tseng (British Pat. No. 2 127 200 A).

11. Nakayama does not disclose the use of text and speech. These elements are disclosed by Tseng.

12. With respect to applicant's claims 69 and 70, Tseng, which discloses a music and arithmetic teaching machine, also discloses providing computer controlled voice explanations of said animations, and means of synchronizing said voice with said animations (Abstract, third sentence).

13. Therefore, it would have been obvious to a person with ordinary skill in the art at the time this invention was made to substitute the Nakayama RAM 13 (FIG.2) for the Tseng RAM 13 (FIG.1) and incorporate the program running in the Nakayama CPU 10 (FIG.2) in the Tseng CPU 11 (FIG.1) in order to fulfill applicant's claims. Such a combination would jointly and clearly express numerical concepts to raise a user's learning interest and learning effect (Tseng,

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Abstract, third sentence).

14. The other claims in this rejection will now be considered: Concerning claims 71-73, Tseng additionally comprises (g) means for converting text to speech, and (h) a method of using a text script to control the synchronization of the voice with the animations (Abstract, third sentence).

15. Regarding claims 76-77, Nakayama discloses accepting user input and changing the computer-controlled display in response to the user input (Abstract, first two sentences) and Tseng discloses providing computer-controlled voice explanations synchronized with the animations (Abstract, third sentence).

16. Finally, regarding claims 78-79, Tseng additionally comprises means for evaluating, in real time, the context dependent content in said voice explanations (13, FIG.7).

17. Therefore, in view of the foregoing, it is concluded that claims 69-73 and 76-79 are rendered unpatentable by Nakayama and Tseng.

18. Claims 74 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable by Nakayama in view of Weinreich (U.S. Pat. No. 5,535,421).

19. Nakayama further discloses, with respect to both claims, a means for (i) moving of a symbol or symbols along a prescribed path (col.9, ll.23-27); (ii) transforming a first symbol into a second symbol (left shift key 3h, FIG.1); (iv) and (v) causing said symbol or symbols to fade in and out (when the screen changes to display a new equation, symbols fade out so that new symbols can fade in); (vi) adding pictorial additions to a symbol (the "X2" in the upper-right-

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hand box of **g2**, FIG.8 is a pictorial addition to the symbols in **g1**), and (vii) removing a pictorial addition that was previously added to a symbol (**g3** in FIG.8 displays an equation in which the operation "X2" is applied to the equations in **g2** and the pictorial representation "X2" is removed). However, the Nakayama inventors did not disclose (iii) a means for the splitting of said symbol or symbols into multiple copies; this is taught by Weinreich's chord keyboard system at col.12, ll.5-24).

20. Therefore, it would have been obvious to a person with ordinary skill in the art at the time this invention was made to give the Nakayama keys the ability to repeat symbols. This makes it easier for the user to type a long line of repeated characters (Weinreich, col.12, ll.7-13).

***Response to Remarks***

21. The applicant presents seven assertions as to why these claims are allowable, and the examiner considers each of these assertions in turn:

22. *1. Nakayama teaches stepwise presentations of transformed symbolic statements. 2.*

*Stepwise presentation of transformed symbolic statements is precisely the art that the Applicant improves upon.* Nakayama disclosed what was claimed in the original claim 1 (now claim 61; see 102 rejection of claim 61 above). Therefore, the facts that Nakayama teaches stepwise transformation, and stepwise transformations are precisely the art that the applicant improves upon, are irrelevant with respect to claim 61. With respect to assertion #2, the applicant further contends that the specification that describes his invention clearly distinguishes animations from stepwise presentation of transformations, but his claims do not, and it is his claims that need to

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clearly distinguish animations from stepwise presentations of transformation before the examiner can withdraw Nakayama as a prior art reference.

23. 3. *Stepwise presentation of transformed symbolic statements are not "animations".* 4.

*Nakayama does not disclose, teach or suggest animations.* Assuming *arguendo* that the examiner agrees with this statement, the task in distinguishing the applicant's invention involves ascertaining what animation is, not what it isn't. Furthermore, in the interest of reducing court dockets and applicant and court costs, the applicant should clearly specify what animation is so it does not have to be determined by a litigation proceeding, as applicant suggests is appropriate.

24. Since the applicant has not clearly specified in the claims what is animation, the examiner prefers to take a suggestion of the applicant's and educate himself as to what is animation using Foley et al., Computer Graphics: Principles and Practice Second Edition in C ("Foley"). Within the first paragraph of page 1057 of Foley it is stated, "Although people often think of animation as synonymous with motion, it covers all changes that have a visual effect."

25. Applying this definition to the claims as presently drafted, Nakayama fulfills the claims because a person can look at items **g1** through **g7** in FIG.8 and col.16, ll.7-26 of Nakayama and see the changes from item to item; therefore items **g1** through **g7** depict animation because they have a visual effect on the viewer, and if items **g1** through **g7** can be characterized as a stepwise presentation, then stepwise presentations are indeed animations.

26. 5. *Nakayama does not anticipate the invention claimed in original Claim 1.* Whether or not Nakayama anticipates the invention claimed in the original claim 1 is moot because claim 1



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has been cancelled. However, since claim 1 is similar to the present claim 61, whether or not Nakayama anticipates claim 61 is relevant. The examiner believes that he has demonstrated that Nakayama teaches the limitations conveyed by claim 61 in paragraph 4 above.

*6. Obviousness requires suggestion and motivation to combine disparate elements.* The examiner accepts the basic requirements of a *prima facie* case of obviousness set out by MPEP 2143, and believes that he has adhered to these requirements in the 103 rejections in paragraphs 10-13 and 18-20 above.

*7. The Examiner has cited no reference that suggests or motivates combining animations and transformations.* Here the applicant mentions claims 1 and 41, which have since been cancelled. However, addressing the applicant's general concern about combining animations and transformations, since the examiner believes that FIG.8 of Nakayama by itself discloses animations combined with transformations, no other suggestion or motivation to combine animations and transformations is required.

*8. Nakayama cannot properly be combined with any of the heretofore cited art to render obvious any invention that includes the limitations recited in original Claim 1.* A rejection of a claim with art under 35 U.S.C. 102(e) asserts that the art used for the rejection, by itself, discloses all the limitations of the rejected claim. Therefore Nakayama does not need to be combined with any other art to reject the original claim 1, which is now the current claim 61.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the Office should be directed to the examiner, Lance Sealey, whose telephone number is (703) 305-0026. He can be reached from 7:00 am-3:30 pm Monday-Friday EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

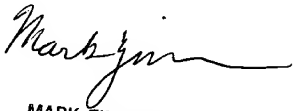
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office at (703) 306-0377.

  
MARK ZIMMERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600